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memorandum

U
F: EM-453.1 (J. Ciocco, 3-7459)

2. Review Comments for "Internal Draft, Technical Memorandum Number 2, Operable Unit 4"

cc: R. Schassburger, Rocky Flats Office

The Office of Southwestern Area Programs, Rocky Flats/Albuquerque Production Division, has reviewed the "Internal Draft, Technical Memorandum Number 2, Operable Unit (OU) 4 to Final Phase I Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Work Plan, OU 4," and has prepared the attached comments for your consideration in preparing the final document. Please address these comments during the document finalization process.

One of our major concerns with this document is that it creates an unclear picture of the total effort at OU 4. Borings have been relocated based on new information that is not presented, or new hypotheses that are not documented. The Work Plan and Technical Memorandum Number 1 should be modified, with an attached letter report providing the supporting data.

Another major concern regards placing borings originally planned for the center of the ponds off to the side. The reasoning behind the decision to move the bore hole locations should be given and fully supported. These borings will not provide the same information concerning the contaminant profile and depth of contamination as borings under the ponds.

The subject document focuses on the immediate vicinity of the solar ponds and on the slope to the north and northeast of the ponds. Current ground water data for the surficial materials indicate that transport to the south and southeast is also important. An explanation should be provided why the area to the south of the ponds is not proposed for more detailed investigation.

Please contact me at (301) 903-8191, or Jeff Ciocco of my staff at (301) 903-4759 if you have nay questions regarding these comments.

for *Jeff Davis*
Autar Rampertaap
Chief
Rocky Flats Branch
Rocky Flats/Albuquerque Production Division
Office of Southwestern Area Programs

[illegible]

NOTE: _____

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BY: _____ DATE: _____

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ttachment

c w/attachment:
. Hartman, RF

c w/o attachment:

ADRAIN RECORD

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United States Government

Department of Energy

memorandum

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1993 APR 12 A 8:58

DATE: ~~APR~~ 0.7. 1993

REPLY TO
ATTN OF: EM-453.1 (J. Ciocco, 3-7459)

SUBJECT: Review Comments for "Internal Draft, Technical Memorandum Number 2, Operable Unit 4"

to: R. Schassburger, Rocky Flats Office

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The subject document focuses on the immediate vicinity of the solar ponds and on the slope to the north and northeast of the ponds. Current ground water data for the surficial materials indicate that transport to the south and southeast is also important. An explanation should be provided why the area to the south of the ponds is not proposed for more detailed investigation.

Please contact me at (301) 903-8191, or Jeff Ciocco of my staff at (301) 903-4759 if you have any questions regarding these comments.

for Jeff Ciocco

Autar Rampertaap
Chief
Rocky Flats Branch
Rocky Flats/Albuquerque Production Division
Office of Southwestern Area Programs

Attachment

cc w/attachment:
J. Hartman, RF

cc w/o attachment:
R. Greenberg, EM-453

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**DOCUMENT REVIEW: INTERNAL DRAFT, TECHNICAL MEMORANDUM NUMBER 2 TO FINAL
PHASE I RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION/REMEDIAL
INVESTIGATION WORK PLAN, MODIFICATIONS TO FIELD ACTIVITIES; SOLAR EVAPORATION
PONDS (OPERABLE UNIT 4)**

MAJOR CONCERNS

1. The intent of this document is to modify the existing and approved Phase I Work Plan and Technical Memorandum (TM) Number 1 for Operable Unit (OU) 4. The presentation of the proposed work in this document creates an unclear picture of the total effort at OU 4. Borings have been relocated based on new information that is not presented, or new hypothesis that are not documented. This document is to modify the field activity found in the TM 1. TM was written to modify field activities contained in the original Phase I Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation (RFI/RI) Work Plan. To fulfill the intent of the document the actual Work plan and TM 1 should be modified, with an attached letter report providing the supporting data. This would allow a clearer presentation of the total effort and also provide a definite paper trail regarding the specific changes made to the planned work and why these changes were made.
2. There does not appear to be any value added to placing borings originally planned to go in the center of the ponds off to the side. The reasoning behind the decision to move the bore hole locations should be given and fully supported. These borings will not provide the same information concerning the contaminant profile and depth of contamination as borings under the ponds. If the information to be derived from the borings has not changed and the premise to be investigated is the same as the ones outlined in the OU 4 Phase I RFI/RI Work Plan, then the Boring Program should wait for the completion of the solidification project rather than relocating these borings.
3. The investigation described in this document focuses on the immediate vicinity of the solar ponds and on the slope to the north and northeast of the ponds. Current ground water data for the surficial materials indicate that transport to the south and southeast is also important. For example, see Figure 2-5 of the Resource Conservation and Recovery Act 1991 Ground water Monitoring Report, which maps a lobe of the nitrate plume to the south of the ponds. Please explain why the area to the south of the ponds is not proposed for more detailed investigation.

GENERAL COMMENTS

1. The information used to modify the plan needs to be presented to support the proposed changes. Evaluation of the new boring locations cannot be completed without the information referred to in the text.
2. Please delete references to "beliefs." Present a site conceptual model with the supporting data, relate the data quality objectives to the sampling program, and discuss how the sampling program will verify the model.

SPECIFIC COMMENTS

1. Section 1.1, page (p.) 1-1, first paragraph: The inaccessibility of the bottom of the ponds due to slippage in the schedule for removal of pond water and sludge would appear to be a reason for conducting the sampling beneath the liners at a later date, not placing the boreholes in other locations. Please clarify if there are other reasons for changing the locations of the proposed borings.
2. Section 1.1, p. 1-1, second paragraph: Including a meeting as a reference should be documented by adding the meeting minutes as an appendix to this document.
3. Section 1.2, p. 1-2, second paragraph: Please provide a figure locating the work that has already been conducted at the OU 4 site. Please provide the evidence that supports the hypothesis that bedrock topography is the controlling influence on alluvial ground water flow and that the original topography of the hill mimicked the top-of-rock contours, i.e., clarify the rationale for the "beliefs" discussed in this section.
4. Section 1.2, p. 1-3, first paragraph: Please provide the current bedrock surface map. Without the latest information it is impossible to determine if the recommended locations will meet the objectives described in this document.
5. Section 2.0, p. 2-1: The document does not discuss the additional tests described in TM 1, borehole geophysics, permeability tests, etc., that were to be conducted on the borings. Please clarify if these tests will be conducted on the borings to be installed from this memorandum.
6. Section 2.1.1, p. 2-2, first paragraph: Unclear as to how installing borings to the side of the ponds will provide information on the soils directly under the ponds. Please clarify.
7. Section 2.1.1.1, p. 2-2, second paragraph: Please relate this discussion on contaminant mobility to the contaminants of concern from the solar ponds. Contaminant mobility and the likelihood of the different phases as described in the first sentence is directly related to the type of contaminant.

Also, please verify the discussion presented on the movement of contaminants preferentially occurring in the fine-grained materials over the coarse grained materials (it would seem to be the other way around). It would seem more likely that the movement would change from vertical to more horizontal flow if a finer grained, lower permeability, layer was intersected.

8. Section 2.1.1.1, p. 2-4, first paragraph: Please provide the results of the sump samples.
9. Section 2.1.3, p. 2-6, fourth paragraph: Please provide the reasons for why this would be better as borehole extending into the bedrock.
10. Section 2.2, p. 2-9 to 2-12: Unclear why it is useful to investigate the Interceptor Trench System (ITS) in the detail proposed. The following should be incorporated into the discussion and sampling programs:
(1) The trenches proposed for investigation are upgradient from the french drain system. It would seem the overall performance of the ITS and the french drain system would be the pertinent question, not the performance of a relatively minor upgradient component. (2) Current data for ground water in the surficial materials already indicate that the ITS is not intercepting all shallow ground water because high concentrations of nitrate are observed in shallow wells north of both the ITS and the french drain system. (3) After the ponds are drained the hydrology of the area is likely to change significantly. For example, leaking ponds probably currently provide artificial recharge on the topographic high at the location of the ponds. Draining of the ponds is likely to produce significantly lower watertables and hydraulic gradients away from the ponds, making data on current conditions obsolete. Please reconsider the usefulness of the piezometer banks in light of these issues.